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SILICEOUS URINARY CALCULI.

By JOHN BACON, M.D.

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SILICIC acid is widely distributed in the various vegetable substances used for food by man and animals, and is a constituent of nearly all potable waters. From these sources it is introduced into the blood and other fluids of the organism, as well as the solid tissues. In human blood, the proportion is extremely minute; in the hair, one or two tenths of 1 per cent are found. The blood and hair of the ox and other herbivorous animals are a little richer in silica; and in the feathers of some birds it reaches nearly 4 per cent. Silica also occurs normally in the urine of man and various animals, but only in an infinitesimal amount. Its existence in urinary concretions is regarded as extremely rare: very few cases are on record among the several thousands of analyses of calculi published by various chemists since the nature of these bodies was first successfully investigated towards the close of the last century. Few large collections of calculi are destitute of specimens of quartzose pebbles and other siliceous minerals, asserted by patients to have been passed from their bladders; but the mineralogical and chemical characters of these substances are almost always sufficient to prove their extraneous origin. Chemists are occasionally called upon to analyze siliceous sand and gravel, and even sizable pebbles, purporting to have been voided with the urine. Several such cases have occurred in my own experience. These foreign bodies may actually be introduced into the urethra or bladder, and require a surgical operation for their extraction.

Among the specimens of calculi from the urinary organs of herbivorous animals which I have analyzed within a few years, four proved to be siliceous. Two of these are in the Cabinet of the Boston Society for Medical Improvement, and two in the Warren

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Museum at the Massachusetts Medical College. They are of undoubted genuineness. In the present paper are brought together for comparison all the cases which I have been able to find recorded, of the occurrence of silica in urinary calculi, either of man or the inferior animals. A sketch is given of each case in which a noticeable amount was found, with a reference to the original account in nearly every instance. Those calculi are first described which contain the largest proportions of silicic acid.

I.—A calculus from the urethra of a lamb, analyzed by Lasaigne. It had the form of a slender cylinder slightly tapering towards the ends, and measured a little over half an inch in length and one seventh of an inch in diameter. It was very friable, and consisted of slightly adhering concentric layers. Color white, with a slight red tint. On ignition, it left a white, pulverulent residue, forming about eight tenths of the calculus, and having all the properties of silicic acid. A trace of peroxide of iron was also detected. The remainder of the calculus was animal matter.—*Annales de Chimie et de Physique*, 1830, t. xliv., p. 420. This calculus is incorrectly described by Dr. Golding Bird and some other authors as composed of pure silica.

II.—A calculus from the urethra of an ox, killed on account of retention of urine caused by it. The specimen is in the Cabinet of this Society, and a small fragment was analyzed by myself in 1857. The analysis is published in the *Extracts from the Records of the Boston Society for Medical Improvement*, vol. iii., p. 150. Also, in the *Boston Medical and Surgical Journal*, 1857, vol. lvii., p. 301. Recently, I have divided the calculus through the centre, and determined the per centage of silica by a new analysis. The specimen is nearly spherical, with a rough and tuberculated surface, and measures four lines in diameter. Its original weight was about seven grains. In general appearance it resembles a mulberry calculus, and has a yellowish grey color. On section, a number of irregular layers are seen, enclosing a small nucleus of the same character as the surrounding laminae. The proportion of silica was determined by treating a weighed portion (about one and a half grains), in small fragments, with concentrated nitric acid at a boiling heat, to remove the saline and organic matters. The fragments became translucent, but retained their shape and hardness. After thorough washing with hot water, the fragments were dried in vacuo over sulphuric acid until they ceased to lose weight: then ignited in a platinum crucible and again weighed. By this process, it was ascertained that the silica occurs, partly at least, as a hydrate. The loss on ignition, amounting to 6.4 per cent. of the weight of the silicic acid, undoubtedly represents only a part of the combined water. Since the hydrates of silica lose some water at ordinary temperatures, the amount originally in combination cannot be ascertained. On applying heat, there was a transient darkening, showing that a trace of organic matter remained, but

the fragments quickly became quite white. This residue weighed exactly 80 per cent. of the original amount, and had the properties of pure silicic acid. Besides the common tests, its purity was proved by fusing one grain with carbonate of soda, and separating the silica in the usual mode by adding hydrochloric acid and evaporating to dryness. The separated silica, being thoroughly washed and ignited, weighed 0.985 grains. The loss is no greater than is usual in operating on so small a quantity, especially as traces of silica are always taken up on dissolving the saline residue after evaporation to dryness. No other substance was found in this solution. Besides 80 per cent. of silica, the calculus contains carbonate and phosphate of lime, water, and a little animal matter. Accompanying the remaining half of the calculus is a tube-vial containing a part of the silica obtained from it.

III.—A collection of more than six hundred little spherical calculi taken by Dr. John B. S. Jackson from an ox-bladder. They are mostly smooth, and of a yellowish-white color. In size, they are tolerably uniform; the largest ones measure a line in diameter, and a few are very minute. Some exhibit indistinct concentric layers, but no crystalline structure occurs in any. They are sufficiently hard to scratch flint glass. After boiling in nitric acid and ignition, they become quite white; anhydrous silica being left, which retains the original form and hardness of the calculi. They were analyzed by myself in 1857, and are now in the Warren Anatomical Museum. In a tube-vial accompanying the calculi are specimens which have been boiled in nitric acid and ignited. Since this analysis was published in the *Extracts from the Records* of this Society, vol. iii., p. 105, I have determined the proportion of anhydrous silicic acid, which amounts to 78 per cent. In the calculi, it appears to be combined with water as a hydrate; and is accompanied by a little animal matter, with a very little chloride of potassium and traces of sulphates and other salts of potash and soda. Hydrochloric acid takes up no salt of lime or magnesia, nor is any appreciable amount of silica removed by hydrochloric or nitric acid.

Small spherical calculi, resembling these specimens in general appearance, but composed essentially of carbonate of lime instead of silica, are occasionally found in great numbers in the bladder of the ox. They are often as large as peas, and frequently present a pearly or metallic lustre. There are many such specimens in the Museum of the College of Surgeons at London.

IV.—A calculus analyzed by Foureroy and Vauquelin about the year 1798, and stated to be from the human bladder. It was made up of five layers, surrounding a nucleus of a yellowish-fawn color. The nucleus and two inner layers were very hard; and resembled a rough mulberry calculus, except in color, which was paler and more yellow. This portion of the calculus contained about two thirds of its weight of silicic acid. It was associated with animal

matter and a trace of phosphate of lime. The next layer consisted of uric acid; and the two exterior ones of urate of ammonia and phosphate of lime. No silica occurred in the three outer layers.—*Mémoires de l'Institut. Sci. Math. et Phys.*, 1802, t. iv., p. 135. This calculus and another from the human bladder containing an almost inappreciable amount, were the only siliceous ones in more than 600 analyzed by Fourcroy and Vauquelin.—See *Annales du Muséum D'Histoire Naturelle*, t. i., p. 108.

V.—A calculus from the kidney of a sheep, analyzed by myself. It has a triangular prismatic form, tapering towards the ends; each face is about three lines broad, and the length is seven lines. It weighs $7\frac{1}{2}$ grains. One of the three faces is covered by a tuberculated crust, made up of thin translucent laminae. This crust has a pale bronze color, with a semi-metallic or pearly lustre and slight iridescence. One end of the calculus being removed, the interior is seen to be composed of several concentric layers, mostly of a greyish white color, with two or three darker ones; near the surface is a lustrous pearly layer, similar to the external crust. The portion analyzed contains about 50 per cent. of silicic acid; with carbonate of lime, carbonate of magnesia, animal matter and water. A trace of oxide of iron probably occurs, but was not certainly detected. The analysis was reported at the meeting of this Society on February 25th, 1861.—See *Boston Med. & Surg. Journal*, vol. lxiv., p. 211. The specimen is in the Society's Cabinet, with some fragments which have been subjected to the action of nitric acid and intense ignition.

VI.—A calculus from the urethra of an ox, a fragment from the exterior of which was analyzed by myself in 1860. The analysis is reported in the Records of the Boston Society for Medical Improvement, vol. iv., p. 136; and in the *Boston Med. and Surg. Journal*, 1860, vol. lxiii., p. 40. In this instance the animal died from retention of urine occasioned by the calculus, and consequent rupture of the bladder. The specimen has an irregular shape, measuring seven lines by three, and originally weighed $8\frac{1}{2}$ grains. It is mostly covered by a thin and brittle crust, like a glaze; having a pale bronze color, and a semi-metallic lustre, similar to No. V. This crust is made up of very thin layers. To obtain a sufficient amount for quantitative analysis, I have recently made a section of the calculus, but not through the centre. The interior shows several irregular layers; the inner ones of a dark color, and those next the shining crust, of a yellowish white. The portion removed for analysis, which was a single piece, retained its shape and hardness after treatment by hydrochloric and nitric acids, and ignition. It was then quite white on the surface, but retained a little unburned carbon in the interior. It was fused with carbonate of soda, and the silicic acid determined in the usual way. A part of the silica obtained is preserved in a tube-vial with the specimen. The calculus contains in 100 parts, 43 parts of silica,

29 of carbonate of lime and 5 of carbonate of magnesia. Traces of phosphate of lime and peroxide of iron occur. The other constituents are water and animal matter. In the little fragment formerly analyzed, carbonate of magnesia and oxide of iron were not detected. Some of the thin laminae of the shining crust consist of carbonate of lime chiefly, with little or no silica. Most of them contain much silica, and after treatment by acids are transparent and colorless, and show on microscopic examination a finely granular texture, but no crystalline structure. They exert no action on polarized light. When heated highly they lose water and become white and opaque. In the four calculi analyzed by myself the silica occurs as a hydrate, and possibly also in some combination with organic matter. The present specimen and the collection of little spherical ones from an ox-bladder (No. III.) are the only siliceous urinary concretions in the Warren Anatomical Museum, which contains 184 urinary calculi that have been analyzed.

VII.—A calculus taken from the urethra of a bull, and analyzed by Wurzer. In shape it resembled a small bean, and weighed about $6\frac{1}{2}$ grains. Its color was pale brown, and the surface very smooth as if polished. The analysis gave 38.5 per cent. of silica, with 36.3 per cent. of carbonate of lime. The other ingredients were 12.2 per cent. of animal matter (regarded by Wurzer as mucus), water, a little phosphate of lime, and traces of iron and manganese.—*Schweigger's Journal für Chemie und Physik*, 1833, band lxvii., s. 27.

VIII.—A calculus from the urethra of an ox, whose death it had occasioned. It had the size and shape of a small bird's egg, and a yellowish grey color. Neither nucleus nor layers occurred. This calculus, like the last, was analyzed by Wurzer. It contained 38.2 per cent. of silica, and 36.8 per cent. of carbonate of lime. The other constituents were phosphate of lime, animal matter, water and a little oxide of iron.—*Schweigger's Journal*, 1822, band xxxvi., s. 321.

IX.—A calculus taken from the bladder of a fresh-water turtle, and analyzed by Lassaigne. It was very friable, and consisted of loosely adhering concentric layers. Weight, 262 grains. Color, yellowish-white externally, and white within. The chief constituent was phosphate of lime, amounting to 56 per cent. Water, organic matter, and small amounts of carbonate of lime, carbonate of magnesia and other salts were also present. $4\frac{1}{4}$ per cent. of silica occurred in transparent grains.—*Comptes Rendus*, 30 Juillet, 1844.

X.—A large, ovoid calculus, removed by lithotomy from the bladder of a man. It was made up of layers, but contained no nucleus. Weight, 870 grains. Color, brown on the exterior; yellowish-white in the interior. It was composed of about $75\frac{1}{2}$ per cent. of uric acid, $17\frac{1}{2}$ of phosphate of lime, $6\frac{1}{2}$ of animal matter, and 1 per cent of silica. The analysis was made by Wurzer.

—Gehlen's *Journal für Chemie und Physik*, 1806, b. ii., s. 265. Also, *Annales de Chimie*, 1806, t. ix., p. 310.

XI.—A calculus from the human kidney, weighing nearly fifteen ounces avoirdupois. It was irregular in shape, and apparently moulded in the pelvis of the kidney. The principal constituent was triple phosphate, with salts of soda and ammonia, and animal matter. No lime was found. Silica occurred in the proportion of one third of one per cent. It was analyzed by Koninek. The case is reported in a Paris journal, *L'Institut*, for 1836; not the *Memoires* of the French Institute. I have not been able to consult this paper, but a full account is given in *Erdmann's Journal für praktische Chemie*, 1836 (N. F.), b. ix., s. 395.

The following cases are reported of the occurrence of silica in human urinary calculi, in small and not precisely determined proportions. Guéranger* gives the analysis of a calculus from the bladder of a man, which was made up of concentric layers surrounding a hard nucleus, wholly composed of urate of ammonia. The remainder of the calculus consisted of phosphate of lime, triple phosphate, urate of ammonia, animal matter and some silica. It resembled a mulberry calculus, but contained no oxalate of lime. The patient passed with his urine sand having essentially the same composition as the outer layers of the calculus. In this sediment, the silica occurred in separate granules. I have not seen the original paper, but found an account in the *Annales der Pharmacie*, 1832, b. ii., s. 107. Magnes reports in the *Journ. de Chim. Méd.* for 1836, the analysis of a human vesical calculus containing silica with phosphate of lime. A case of siliceous gravel is reported by Guibourt in the same *Journal* for 1830. These cases are cited by Robin and Verdeil.†

Traces of silica have been found by several chemists in human urinary calculi; usually accompanying oxalate of lime, and having the appearance of minute grains of sand. Dr. Yelloly‡ found one such specimen among 663 in the Museum of the Norfolk and Norwich Hospital, England, which were analyzed by him. It was a little oxalate of lime calculus from the bladder of a boy. It weighed about five grains, and contained a few minute siliceous granules. Two figures of it are given in the Catalogue of the Calculi in the Museum of the College of Surgeons, London, plate xii., figs. 8 and 9. A similar calculus, cut from the urethra of a physician, is described by Dr. Venables in the *London Medical Gazette* for April 3 and May 29, 1846. It was very rough and tuberculated, and weighed 4½ grains. It consisted of oxalate of lime chiefly, with a little uric acid, and a very minute amount of silica. Wurzer§ states that he has found silica in human vesical calculi, but in extremely small amount. Hopfe|| reports traces of silica

* *Journal de Chimie Médicale*, 1831, t. vii., p. 225.

† *Chimie Anatomique*, t. iii., pp. 416-418.

‡ *Philosophical Transactions*, 1830, p. 418.

§ *Schweigger's Journal*, b. xxvi., s. 324.

|| *Journal de Pharmacie*, t. xviii., p. 164.

in two calculi. In a single specimen in the Royal Surgical Museum of Copenhagen, Scharling reports traces in the fragments of a calculus chiefly composed of uric acid and urate of ammonia; and states that he has occasionally obtained a few grains of sand on washing calculi with rough and uneven surfaces. He believes that in such instances, the siliceous sand was not deposited from the urine, but conveyed into the bladder fortuitously. One specimen in the Copenhagen Museum, described as a siliceous calculus, is said by Scharling to consist of silica with several laminæ of mica, and to be entirely free from organic matters; leaving no doubt of the correctness of his opinion that the specimen was of mineral origin.—See *Scharling on Calculi*, translated by Dr. Hoskins; p. 81. In a case reported by Dr. Venables,* of the passage of small siliceous calculi by a woman, there is no doubt that the physician from whom he received a specimen which he describes, was imposed upon by the patient. The other case given in his article, in which a very little siliceous sand was repeatedly passed with the urine of a female patient under his own care, appears to be a genuine one. He states subsequently in a letter to Dr. Yelloly, that the filtered urine, on standing a fortnight in a glass vessel, deposited a few minute crystals of silica on the sides of the vessel, resembling the sand found in the urine when passed.—See Dr. Yelloly's paper referred to above.

In the urinary calculi of animals, a little silica has been detected in a few instances besides those already described in this paper. A very hard concretion taken from the urethra of an ox, was found by Simon† to contain a large proportion of carbonate of lime, with a little phosphate of lime and silica. Simon states that Buchholz found silica in a vesical calculus from a horse. Landerer‡ also detected traces in an urinary calculus from a horse. The Cabinet of this Society formerly contained a little calculus from the kidney of an ox, of the size and shape of an apple-seed, which was analyzed several years since by Mr. Richard Crossley, then an assistant in the laboratory of Dr. Charles T. Jackson. He found it to "consist mostly of carbonate of lime, with a trace of phosphate of lime and peroxide of iron—some animal matter, having the odor of benzoin—also silica, from which glass was made."§ No portion of this specimen is preserved. There are now in the Cabinet three similar calculi which were supposed to have been taken from the kidney of the same ox, although some doubt existed on this point. One has the size of an apple-seed, and the others are much smaller. I have recently analyzed one half of each of these, and find no trace of silica. The analysis, which will be reported to the Society, shows a difference in other

* London Quarterly Journal of Science, 1829, vol. vi., p. 234.

† Animal Chemistry, Sydenham Society Ed., vol. ii., p. 462.

‡ Annuaire de Millon et Reiset, 1847, p. 707.

§ Quoted from Manuscript Catalogue of Cabinet.

respects from the one examined by Mr. Crossley, and warrants the inference that they were not from the same animal.

The foregoing list might probably be extended by further search, but it includes all the authenticated cases collected from the sources of information within my reach. A few other reported cases remain to be mentioned. Allemain, an Italian apothecary, gives the analysis of an urinary calculus containing twenty per cent. of silica. There is no description of his process, and it is evident from the account of the other constituents found, that his analysis is wholly unreliable.—See “*Calculs urinaires*” in Violette & Archambault’s *Dictionnaire des Analyses Chimiques*. Boussingault* reports the analysis of a small ferruginous mass, purporting to have been passed from the bladder of a lady. It resembled in appearance bog iron ore; and contained much peroxide of iron, with alumina, silica, lime and water. It was unquestionably an ore of iron. A case is described by Dr. N. Hill,† in which fifteen or sixteen little siliceous fragments, resembling bits of quartz, were passed by a young lady with the urine, and in part through a catheter. The circumstances of the case, and the characters of the alleged calculi, leave no doubt that the physician was deceived by his patient, and that she had herself introduced these bodies into the bladder.

In the catalogues of various large collections of calculi which have fallen under my notice, none containing silica are mentioned, excepting one in the Copenhagen Museum, already referred to, and the one analyzed by Dr. Yelloly, in the museum of the Norfolk and Norwich Hospital. It does not appear that any siliceous calculus has been subsequently added to the collection of that Hospital, which contained, at the end of 1859, the large number of 1524 urinary calculi.‡ The collection of 179 calculi in the Dupuytren Museum at Paris, analyzed by Dr. S. L. Bigelow, afforded none containing silica; one specimen examined by him had been previously reported as siliceous.§ None are reported in the published Catalogue of the Museum of the College of Surgeons, London; in 1845 it contained 649 human urinary calculi, and 57 from the lower animals, including 11 or more from the urinary organs of the ox. 35 of the 57 animal calculi, including all those known to be from the ox, were composed chiefly of the carbonate of lime. Silicic acid is a substance of so strongly-marked chemical characters, that even a trace could not be overlooked in a careful analysis. Judging from its occurrence in large amount in three calculi from the ox, analyzed by myself, it may be a more frequent constituent of animal concretions in this country than in Europe. I believe that more extended analyses will show that siliceous calculi are not so extremely rare as has been hitherto supposed.

* Journal de Pharmacie, t. xi., p. 153.

† Edinburgh Medical and Surgical Journal, 1834, vol. xli., p. 127.

‡ London Lancet, Sept. 1, 1860.

§ Houel, Anatomie Pathologique, p. 437.

In the present paper, I have not referred to the presence of silica in intestinal calculi. Several chemists have found grains of sand in concretions from the alimentary canal, especially of herbivorous animals. Two intestinal calculi from the horse, belonging to the Cabinet of this Society, which were analyzed by myself, afforded a number of white and yellow angular grains of quartzose sand, which I have no doubt had been swallowed with the food. These calculi were chiefly composed of triple phosphate, with some organic matter.—See *Boston Medical and Surgical Journal*, 1859, Vol. LX., p. 383. Besides the accidental mixture of sand with the food or water taken into the stomach of the animal, another source may be the considerable amount of silica contained in the various grasses and cereal grains, the greater part of which passes through the alimentary canal unassimilated.

PUS CORPUSCLES IN THE AIR!

AN AEROSCOPIC STUDY BY DOCENT DR. THEOPH. EISELT IN PRAG.

[Translated for the Boston Medical and Surgical Journal, from the *Wochenblatt der Zeitschrift der k. k. Gesellschaft der Aerzte in Wien*, March 26, 1861, by J. C. WHITE, M.D.]

DURING an epidemic of conjunctival blennorrhœa, which prevailed a short time ago in the Orphan Asylum at Repy, 8 miles distant from Prague, I had opportunity to learn by experience that infection may take place in other ways than by contact. Reserving for future description the particulars of this interesting epidemic, it will be sufficient for my present purpose to show its intensity by a few numerical data. Such foundlings as are given up by their foster-parents are brought to the large and newly-built institution at Repy. Among these 250 foundlings, of whom the majority are between the ages of 6 and 10, there occurred in 1860 from November to December forty-six, and in the period between the 16th and 21st of February, 1861, also forty-six cases of acute conjunctival blennorrhœa. His Excellency, the Governor of Bohemia, Count Forgach, presided personally on the 19th of February at a Council in Repy, at which Prof. Ritter von Hasner, Landesmedizinalrathsubstitut Dr. Hoser, Dr. Biermann, Director of the Hospital, and myself as house-physician, were present and ordered the perfectly healthy children to be left at Repy, but the diseased and infected to be removed with the greatest haste from the institution. Forty-six children were found unaffected, while the newly attacked and those which exhibited merely an injection of the conjunctiva or papillary structure of the membrane without suppuration, were brought to Prague, and distributed in eight different localities. In the latter place, four fifths, and in Repy all of the children, were under my care.

It will readily be believed that as a physician I took the greatest precautions to protect myself against infection. I was par-

ticularly careful not to touch my own eyes. The cleansing of those of the patients was entrusted to the Sisters of Charity, and most punctiliously performed. No chance of contagion from this source was possible, therefore, nor did any scattering of pus take place either by the patients sneezing or coughing during their examination. I was in the habit of going to the Asylum at Repy daily, where I first examined the healthy inmates, then touched the lighter cases of the disease with cuprum, and visited the worst last of all. Whenever I had in this way spent a few hours in the wards, I was sure to feel a sensation of burning and pressure in the eyes, without being able to observe anything upon the conjunctivæ except streaks of injection on the edges of the lids. In the course of a few hours this unpleasant feeling disappeared of itself. When the patients were brought to Prague and I visited them daily, this sensation of pain remained constant, the caruncles became red as well as the whole conjunctiva palpebrarum, and the semilunar fold became livid and so cedematous that the movements of the globe were impaired, accompanied by a mucous secretion, so that the lids adhered in the morning. In other words, I was infected without having become so by contact. The same happened without exception to all the nurses. Of seven of the nuns severely affected, two had caught the disease by the spattering back of the water while cleaning the eyes, two from the dissemination of pus by the sneezing and coughing of the children during the same process, one by washing the bandages, and two in some inexplicable manner. The infection in my own case only needed more unfavorable circumstances to become converted into an acute affection; as it was, however, application of weak solutions of nitrate of silver caused it to diminish in intensity.

Here, then, we have the fact that a person may be attacked by an acute conjunctival blennorrhœa without purulent contact in the ordinary sense; there is wanting only the explanation—how is this possible?

Pouchet, who for many years has been engaged in the microscopic analysis of the air, describes, in the *Compt. Rendus* for April, 1860, an apparatus which he calls an *aëroscope*. Through the kindness of our respected Prof. Purkyne a similar contrivance was prepared here. It depends upon the plan of driving a certain quantity of air across a glass plate moistened with glycerine, upon which the particles of dust and microscopic forms remain fixed, and may be thus readily examined by the microscope. The apparatus consists of a hydrostatic aspirator and two glass tubes, of which the first terminates at its upper extremity in a small funnel, the infundibuliform opening being directed upwards, while the lower is drawn out into a point of 0.50 of a millimetre in diameter. The second tube is ground into the first, and its upper opening is covered with a fine metallic sieve, upon which the glass plate is fastened. This plate is brought to within one millimetre's dis-

tance from the lower funnel-shaped opening by pushing in the tube, and the lower end of tube No. 2 is hermetically united to the aspirator, which is filled with water. The latter is merely a vessel made of zinc plate, two feet high and one foot square at its base, having at the bottom a stop-cock, and in the cover a mouthpiece for connection with the glass tube. If now the water be allowed to flow from the aspirator through the stop-cock, the same bulk of air will stream in through the funnel, and the matter suspended in it will remain sticking to the glass plate.

This aëroscope, as modified by Prof. Purkyne, was placed between the beds of two patients in a ward in which were 33 boys with acute conjunctival blennorrhœa accompanied by great secretion of pus, and the air was drawn through it. It must, moreover, be stated that the eyes were washed by means of glass syringes with warm water, and that from this room alone several pails of waste water were thrown away daily, presenting a milky appearance from the pus it contained. The experiment was made at 10, A.M., after the apartment had been ventilated, and *pus corpuscles were detected in the atmosphere by the very first transmission through the apparatus.*

In this fact lies the explanation of the attacks above described, in which cases direct contact with the patients and the blennorrhagic secretion was excluded. *Infection took place by means of pus corpuscles suspended in the atmosphere.*

In presenting this short but significant communication of our respected colleague and friend to the knowledge of our readers, we cannot forbear adding a few words, prompted by the importance of the subject, and with the more reason, that Dr. Eiselt has far too modestly disdained to surround the announcement of his discovery with that display, which, in science as well as in other fields of human knowledge, appears necessary to procure for a new fact its merited consideration and recognition.

The great significance of this discovery to pathology in general, and to the study of contagion in particular, and the immense importance of this fact, when more thoroughly studied and corroborated, in connection with the care of the sick and the erection of hospitals, need not be farther impressed upon the physician. A new sphere of objective information is thus promisingly revealed, a new and hitherto all untrodden path opened, which, whether its results be negative or positive, will at all events lead to the advancement of science. * * * * *

We are able to say that in consideration of the high importance of this subject, many members of our society have united to give it a thorough investigation, and we shall not fail to keep our readers constantly acquainted with the progress of these examinations, which from the abundance of suitable material afforded by Vienna, and from the combination and systematic employment of so many forces, promise a speedy and conclusive result.—*The Editors of the Wochenblatt.*

A MONTH IN A VOLUNTEER CAMP.

BY A. B. CROSBY, M.D., SURG. 1ST REG. N. H. V.

As everything pertaining to the army is at the present time a matter of interest, it may be that a few facts relating to the hygiene of the volunteers may be acceptable to medical men.

I had the honor of being appointed Surgeon of the 1st Regiment N. H. V., on the 1st of May of the present year, and at once entered upon the discharge of my duties at Concord, N. H., where the regiment was encamped. Under the general direction of Maj. Seth Eastman, U. S. A., the mustering officer, I inspected every man in the regiment. The inspection was of course not as rigid as for the regular army. It was only necessary that the recruit should be able to hear and see well, give evidence of sound lungs, show sound hands and a free use of all his limbs. Hernia was regarded as an insurmountable objection. Between forty and fifty men were rejected under this inspection.

As soon as the ceremony of mustering the men into the U. S. service was complete, the whole regiment, in accordance with the army regulations, were vaccinated, although much against the wishes of some of the men.

As soon as practicable, I organized a hospital force, consisting of a Surgeon's Mate, Dr. H. C. Shaw; a Hospital Steward, Dr. B. F. Eaton; four nurses, two matrons and a cook. A wooden building was hastily thrown together, sufficiently large to accommodate twenty beds. Near the ridge pole at each end a small swing window was provided, and a suitable stove at the centre of the building, thus securing a very perfect ventilation. On the 8th of May I commenced keeping a hospital register, according to the medical regulations of the U. S. A. From the date above-mentioned to the 8th of June—one month—I had received and treated a hundred and twenty-five cases of acute disease. The number of out-patients was also very large during the month. Some mornings, as many as fifty out-patients were prescribed for, and the average of this class of patients was as high as fifteen per day.

Single Pneumonia,	8 cases.	Vaccinia Excessive,	1 case.
Double "	1 "	Gonorrhœa,	1 "
Pneumonic Catarrh,	20 "	Dysentery,	1 "
Facial Ague,	1 "	Exhaustion,	1 "
Meningitis, Sub-Acute,	1 "	Feigned Sickness,	1 "
Delirium Tremens,	3 "	Measles,	58 "
Conjunctivitis,	3 "	Whitlow,	1 "
Erysipelas of Face,	1 "	Fractured Fibula,	1 "
Follicular Inflam. of Throat,	2 "	" Clavicle,	1 "
Diphtheria,	2 "	Contused Ankle,	1 "
Acute Bronchitis,	4 "	Gun-shot Wounds—	
Amygdalitis	4 "	Head,	1 "
Syphilis,	1 "	Thigh,	1 "
Acute Rheumatism,	2 "	Leg,	1 "
Intestinal Obstruction,	1 "		
Rheumatic Hyp. of Heart,	1 "	Total,	125

Of the hundred and twenty-five cases of acute disease actually received into the hospital, the foregoing is an accurate list, copied from my register

Out of this number, only one has died—a patient with double pneumonia. He was a feeble young man of 19—Arthur Cline, of Lyme, N. H.—and died after an illness of eleven days, greatly beloved and respected by all who saw him. “If I cannot march with my regiment,” he said, a few hours before his death, “I had rather die here.”

The 1st regiment N. H. V. has undoubtedly suffered more from disease, with one or two exceptions, than any regiment in the field. The encampment at Concord, situated on a dusty sand plain, was particularly unfavorable for the men. They were lodged in wooden barracks, with poor roofs, the weather was raw and much of the time wet, and the hospital was constantly full. The State equipped the regiment with great generosity. Through the kind coöperation of Gov. Goodwin and Gen. Jos. C. Abbott, I was enabled to provide the medical department in a most satisfactory manner. Our medicine chest, hospital stores, &c., were abundant for the campaign, and we were prepared to open a hospital with twenty beds, wherever we might be landed. We were also provided with two ambulances, one for two and one for four horses—the latter so arranged as to carry twenty men at full length, or thirty when sitting erect.

On the 25th of May we left Concord, being obliged to leave twenty men behind us—some of them convalescing from pneumonia, &c., and a few with measles. And here it certainly cannot be amiss to express my thanks to the ladies of Concord for their unremitting attentions to the sick of the regiment while at Camp Union. To enumerate the number of ladies, the quantity of broths and gruel furnished, and the amount of needle-work done, would require a much greater facility in the mathematics than the writer possesses.

Amid the roar of guns and the shouts of great masses of men, we reached Norwich, Ct., with five men on the sick list. The luxury of two fine steamboats revived the men, so that on arriving in New York, on Sunday morning, we had only four men that we were obliged to leave. These were provided with every comfort at the Manhattan Hotel, in Murray Street, by the proprietor, Mr. Huggins, were attended gratuitously by Dr. Wm. M. Chamberlain, and have since joined the regiment at Washington. We marched down Broadway amid an enthusiasm such as only a New York crowd can get up, and left Jersey City at 6 o'clock on Sunday night. In loading the baggage train, a private fell from a car and fractured the right clavicle, and was sent back to New York, where he received every attention from the sons of New Hampshire. We reached Philadelphia at midnight, crossed the ferry and came on to Havre de Grace, where we arrived at 9 o'clock,

A.M., on Monday. We were obliged to wait here five hours until our baggage train came up, much to the disgust of the railroad superintendent. A couple of privates on the engine, however, contrived to manage the throttle, and Col. Tappan, who is *au fait* at everything he undertakes, made what the dead heads call "the gentlemanly conductor." At Baltimore the regiment was under arms in the street for two hours, until the baggage train was seen safely on the "other side." I had here five men down with the measles, and was obliged to transport them through the city by hacks. We got off at 7½ o'clock, P.M., and by the gleam of many bivouac fires at length reached Washington at about 1 o'clock, A.M., on Tuesday. Our sick men were got into capital quarters, and our poor jaded regiment got what it so much needed, food and repose.

On Tuesday, we marched through Washington and out about two miles from the city, into the park of a gentleman by the name of Fletcher. It is a most beautiful bit of turf, surrounded by fine oak trees, called Kalorama—a Greek word, as I judge, meaning "beautiful view." My hospital tent, large enough to accommodate twenty patients, was soon pitched, and ten men put to bed. The measles now came thick and heavy; yet, notwithstanding that we had one storm of five days, our cases all did much better than I have usually observed, in my own practice, in private families. I attribute the favorable results in our cases of acute disease, to certain hygienic measures which have been scrupulously carried out in all cases. First, every patient has had his whole body sponged over with hot soap suds once every day; and if suffering from much febrile excitement, twice. Second, all our patients have had the most simple nourishment, properly cooked, and in quantities carefully graduated to their wants. Third, there has been an abundance of fresh air always about the patients, and the beds changed as often as every other day. I had a trench dug around the edges of the hospital tent six inches deep. At the most depending corner a gutter is dug off for some distance, so that in case of rain, the drainage is perfect, and the ground under the canvass remains perfectly dry. The ground is then covered with a layer of dry straw, and our single bed sacks, filled every time they are used with fresh straw, rest upon this layer. My hospital force is divided, so that one half is on duty twelve hours during the day, and the other half during the night. The patients are thus sure of good nursing both day and night. In case the air is very damp, a little alcohol poured into a shallow pan and burned in the centre of the tent dries the air perfectly, and need not be repeated more than once in two hours.

A few comments, and I have done with what I fear must seem very desultory facts. Please bear in mind, however, that I am sitting on a barrel, writing on a board, and my mental processes are being aided by a brass band which is blowing to the utmost capacity of its wind.

On referring to the list of diseases enumerated, it will be seen that 58, or nearly one half the cases, were measles—which may be regarded as accidental; yet there remain 67 cases of miscellaneous affections—a large number for a regiment of healthy country men, only a month in camp. Much, I believe, if not the greater part of this disease has originated from the carelessness of the men themselves, who in spite of all remonstrances throw themselves on the damp ground, exercise no care in their diet, however much cautioned, and then wonder that they are sick. Our men were enlisted from farms and machine shops mainly, and undoubtedly possess a great deal of strength. They are full of pluck, and, as the saying is, “just spoiling for a fight;” yet I do not think that it will follow that they will endure the most. At the end of a march of fifteen miles, from Washington to this place, the thermometer being at 90°, twelve men were obliged to go into hospital at once. On the contrary, the New York 9th, made up of clerks in the city, marched side by side with us the same day, and at the end of the march had only one man to go into hospital, and he sick when they started. I attribute this to the fact that these young New Yorkers are much more in the habit of being on their feet, and walking over the “magnificent distances” of New York. Instead of this, our New Hampshire farmers hardly ever walk any distance, usually having a comfortable wagon, and do not probably spend half as much time on their feet as city men. Most of the men in the New York 9th are thin wiry boys, with not a single extra ounce of adipose to carry, and take splendid care of themselves. In my judgment, the New Hampshire boys, in the trenches or in a charge, would lay the New York boys out, but on a march the city boys have the advantage.

The prescriptions for out-patients have been very numerous—not less, on a moderate calculation, than five hundred for the month. The water at Kalorama contained lime and magnesia, so that diarrhoea troubled the troops somewhat, but plenty of bathing and a diet of scalded milk and burnt bread proved efficient in checking it. On the march, men are inclined to drink a great deal of water, which troubles them very much afterwards. I myself find that a canteen filled with cold tea, without sugar or cream, is the most refreshing drink on a march, if taken in moderate quantities. Those who get whiskey into their canteens, are sure to go down before a march is over, either from sun-stroke or drunkenness.

Of purely military surgery we have had comparatively little. One night at Kalorama, the long roll beat at 1 o'clock, and the regiment turned out. At the end of half an hour I was sent for to dress a negro's head, which had been shot by a secessionist. True to its integral thickness, the ball had glanced on the skull, dividing the anterior temporal artery, which I ligatured. A private, having a revolver in his belt, with the muzzle pointing downward, managed to discharge it. The ball entered a little below

and to the inside of the anterior superior spinous process of the crest of the ilium, perforated the fascia lata, and lodged just above the external condyle, and I removed it by a counter opening. The third man discharged his pistol accidentally while running, and the ball lodged beneath the gastrocnemius, whence it was removed by a counter opening.

With the hope that these imperfect glimpses of a month in camp may be of interest to somebody, the writer is willing to stop.

Rockville, Md., June 13th, 1861.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY FRANCIS MINOT, M.D., SECRETARY.

APRIL 8th.—*Cancer of the Cardiac portion of the Stomach.*—Dr. JACKSON showed the specimen, which he had received from Dr. G. Faulkner, of Jamaica Plain, with the following history of the case.

"Mrs. B. died Feb. 27, 1861, aged 53. She was a small, spare, tough woman, and passed all her life in this region. At 22 she married, and had nine healthy children. Catamenia ceased at 44. She worked very hard and always had a good appetite, but her food often distressed her after a meal, so that she 'had dyspepsia ever since she was a girl.' She was hardly ever known to vomit, and during her pregnancies she was well, and never had nausea. Until she became sick, she could never relish *acids*—as vinegar, cider, or even an apple; then, these were particularly grateful to her.

"I can get no trace of cancer in her family.

"In August, 1859, she had so much distress in the region of the stomach and œsophagus, that she commenced taking homœopathic remedies, which she continued till near the close of life. There was no abatement of her suffering, and in the spring of 1860 there was nausea and sometimes vomiting; and by July the vomiting was constant on the taking of food. In December, she complained of no pain except a peculiar *distress* which came on a few minutes after taking food, and was generally relieved by its coming back again. There was not, at this time, any hardness to be felt in or around the stomach, nor was there ever any discovered; nor was there much tenderness at the epigastrium.

"The settled opinion seemed to be (when I first saw her in December), that she had a stricture of the œsophagus. This arose from the fact that she persistently felt and said that the food stopped a little more than half way down the œsophagus—putting her hand to mark the exact spot; so circumscribed was the pain, and so confident was she that the stoppage was *there*, that it had to be believed. She was at this period taking liquids and pap, literally all the time, and vomiting nine tenths of it again, within ten minutes, alleging that it had stopped half way, '*just there*.' Exploration of the œsophagus with instruments, of various kinds, discovered no resistance whatever. Still the same experience went on to the last, and the patient was sure the food went *only so far*, and from that spot was thrown back. For the last two months she took large quantities of food, and her relish was

keen, being nothing hurt by the constant ejection of whatever was taken.

"Five days before death she raised about a pint of dark, bloody, grumous mucus, somewhat, but not very offensive, and this was the only time anything of the kind appeared—or anything but food. Until a few days before the close, she kept about the house, and on the whole, I think, suffered less *pain* than any victim of this disease I have seen. Except the stomach, the organs of the body were found remarkably healthy."

The cardiac portion of the stomach was in a state of open cancerous ulceration, to the extent of from two and a half to three inches from the lower extremity of the œsophagus; but the disease did not extend at all up the œsophagus, and it was perfectly defined in the stomach, the rest of the organ being quite healthy. The general character of the structure was that of a firm encephaloid, and the surface of the ulcer uneven, and of a yellowish-white, opaque color. The edges were softer, raised, somewhat rounded and vascular. The œsophagus throughout is quite healthy, being neither thickened nor dilated.

APRIL 8th.—*Arrest of Development in the Muscles of the Shoulder.*—Dr. LYMAN showed the patient, whose case is as follows:—John Keine, aged 22, born in Ireland, has always been in good health, and able to support himself as a teacher. At the age of two years, while being undressed, he was allowed to fall from the lap to the floor, striking on the right shoulder. Thirteen weeks afterwards, it was noticed that he could not raise or hold in his hand a small stick. The fact of the fall being recalled, he was taken to a "bone-setter," who "put eggs to it," and applied splints. The muscles have never developed, but the bones are of their normal size, or nearly so. The muscles of the fore-arm seem not to have been affected. There is no loss of sensation. The bones entering into the composition of the shoulder-joint appear nearly destitute of muscular covering, being held together by the ligaments, and covered with skin, while the pectoral of the same side is but slightly developed. The case, at first view, presents a marked resemblance to those described under the various titles of "atrophic paralysis," "atrophic muscular paralysis," "progressive muscular atrophy," "muscular atrophy with fatty degeneration," "wasting palsy;" but pathologically there seems to be no resemblance, this being merely an arrest of development from injury, and consequent *absence* of power, while in those, on the contrary, fully developed muscular tissue becomes paralyzed, and progressively atrophied and absorbed, or transformed into fatty tissue, with, in the majority of cases, a fatal result to the patient.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JUNE 20, 1861.

REGISTRATION OF MEDICAL PRACTITIONERS.—A few weeks since we referred with satisfaction to the action of the Louisiana Legislature in making an attempt to protect the medical profession and the commu-

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nity at large of that State from the hitherto unbridled license of every ignorant pretender who might choose to assume the title of physician, and we published the act by which it is hoped this desirable end may be attained. Although the act seems to us imperfect and not sufficiently guarded in its provisions, as the first step it is an important one and will doubtless lead to very beneficial results. Our want of sympathy with the political position of Louisiana at the present time does not prevent our recognition of anything which shows that reason and good sense have not wholly deserted their throne within her distracted borders, and we are ready to follow whenever she takes the lead in so sensible a movement as that to which we have alluded. We have been hoping for a long time that some step might be taken here in Massachusetts to accomplish a similar result. It has long been a source of unutterable disgust and sorrow that with all our self-glorification and complacency at our superior educational advantages and enlightenment, the popular mind is still as ready as ever it was to be deluded by every absurdity which shameless assurance chooses to present to popular credulity. The public œsophagus is as capacious and insatiable as ever for medical monstrosities and impossibilities, and still cries, like the daughters of the horse-leech, Give! Give! Galvanic baths, native Indian physicians imported straight from Ireland via Canada, the *Newtonian* system of laying on of hands, have of late rather forcibly revived the general consciousness of the fact of the readiness with which the community falls into the hands of the spoiler, and prompt us to speak our mind on the subject now. Nothing seems too incredible for the public to accept and put faith in, if it is only urged with grave, unflinching assurance. A medical friend once remarked to us, that he verily believed that if he were to announce to the community that he had made the wonderful discovery that he could cure diseases by a peculiar process of painting the patient's nose sky blue, his office would be thronged with eager aspirants after such a cœrulean distinction. We hope no zealous seeker for the emoluments of the profession will hasten to improve this suggestion and declare to the world so important a discovery; we shall certainly claim for our friend priority if he does. But this is from our purpose.

We feel that it is due to the public as well as the medical profession that our State Society should at once make an effort to bring about so fortunate a state of things as has recently been accomplished in England by the Medical Registration Act. No reasonable man, one would think, could object to some such enactment, which would really be such a blessing to the community. Often have we heard it said, when speaking of the outrageous imposition practised upon our people by some one of the abominable quacks that have of late years so gorged themselves here in Boston at the expense of the public health and the public purse—often has it been said to us, "Well, Doctor, why don't you medical gentlemen prevent this? It belongs to you, it is your business to open the eyes of the community in these matters. You can do it, and you *ought* to do it." All we could say has been, that there was no legislative enactment behind which we could find shelter or under cover of which we could attack such an unprincipled horde of marauders, and the public were too jealous of being interfered with in their privilege of being "fooled to the top of their bent" to inspire any medical man with the least confidence to undertake such a Quixotic attempt. We feel confident, however, that much of

the jealousy hitherto shown by the community of the regular medical profession has come from ignorance of their real purpose and desire in this matter and of the outrageous impositions practised upon them by itinerant quacks. We still have faith in the prevailing power of truth, but it must be brought into action by skilful hands. We are just starting in our State upon a new professional year. Our medical anniversary is just over, and we have ample time for the preliminary consideration of any measure of importance before the next annual meeting. In our opinion, the movement which we indicate should be well matured and proceed from no less responsible a body than the Massachusetts Medical Society. We have personally no definite plan to offer; but let the profession consider the subject, and gather what light it can on the subject from abroad, and then we shall be prepared at the next Annual Meeting to initiate some steps which by perseverance in so laudable an undertaking may lead before long to a consummation we have so long sighed for in vain. We throw out these suggestions, hoping some worthier pens may take them up and give them a more direct and practical form. We should be glad to receive any communications from our professional brethren who are groaning, like ourselves, under the sense of this great tribulation.

APPOINTMENT OF SURGEON-GENERAL OF MASSACHUSETTS.—The Governor has commissioned Dr. Wm. J. Dale, of Boston, as Surgeon-General of the Massachusetts forces. Dr. Dale has from the first been a member of the Medical Bureau, and the efficiency with which the duties of that important department have been performed renders it certain that the appointment of one of its members cannot fail to give general satisfaction, as well to the government as to the profession.

MEDICAL OFFICERS FOR THE MASSACHUSETTS REGIMENTS.—The following gentlemen have been examined, and the first four have received their commissions as surgeons and assistant surgeons:—

1st Regiment.—Dr. R. H. Salter, Surgeon; Dr. S. A. Green, Assistant Surgeon.

2d Regiment.—Dr. L. M. Sargent, Surgeon; Dr. L. R. Stone, Assistant Surgeon.

3d Regiment.—Dr. C. A. Chamberlain, of Northampton, Surgeon.

4th Regiment.—Dr. S. A. Holman, of Taunton, Surgeon; Dr. Z. B. Adams, of Boston, Assistant Surgeon.

5th Regiment.—Dr. Peter Pineo, of Boston, Surgeon; Dr. P. A. O'Connell, Assistant Surgeon.

6th Regiment.—Dr. Luther V. Bell, Surgeon; Dr. F. Foye, Assistant Surgeon.

Dr. George H. Lyman has been added, by appointment of the Governor, to the Board of Examiners.

The following is a portion of a communication from Surgeon-General Dale to the Board of Examining Surgeons, expressive of the Governor's appreciation of the importance of the rigid examination of candidates for medical appointments, as well as of the services thus far rendered by the Commission.

HEADQUARTERS, MEDICAL DEPARTMENT, BOSTON.

TO GEORGE HAYWARD, M.D., *Chairman of Medical Commission.*

I am directed by His Excellency, the Commander-in-Chief, to express to you

his wish that your action should be entirely independent of his in the matter of examining candidates.

He desires me to assure you and your associates of his grateful appreciation of your important services, and his continued desire that the candidates should stand strictly upon their own merits, without any feeling of delicacy on the part of the Board towards his nominations.

ARMY MEDICAL BOARD.—It is stated that the Secretary of War has instructed Surgeon-General Finley to convene an Army Medical Board at Washington, for the purpose of examining candidates for Brigadier Surgeons, and report, and the appointment shall be made only from among those who are reported as qualified. In consequence of numerous complaints having been made to the Department of the incompetency of regimental surgeons, who have been appointed either by the commanding officer or the Governors of States, a similar Board has been instituted. The Board will examine the surgeons of whom complaint has been made, in order to secure their dismissal if found incompetent.

NEW YORK DISPENSARIES.—During the month of May last, in the five Dispensaries of New York city, medical and surgical services, vaccination and medicine were afforded gratuitously to 17,069 persons. The principal causes of death were consumption, smallpox and measles. The prevailing diseases chiefly affected the respiratory and circulatory system. The number of prescriptions dispensed was 24,067; number of primary vaccinations, 5443; number of revaccinations, 210; number of native patients, 9691; number of foreign patients, 7378.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JUNE 15th, 1861.

DEATHS.

	Males.	Females.	Total.
Deaths during the week,	31	36	67
Average Mortality of the corresponding weeks of the ten years, 1851-1861,	34.2	28.5	62.7
Average corrected to increased population,	70
Deaths of persons above 90,

Mortality from Prevailing Diseases.

Phthisis.	Chol. Inf.	Croup.	Scar. Fev.	Pneumonia.	Variola.	Dysentery.	Typ. Fev.	Diphtheria.
14	1	2	2	7	0	0	0	0

METEOROLOGY.

From Observations taken at the Observatory of Harvard College.

Mean height of Barometer,	29.876	Highest point of Thermometer,	82°
Highest point of Barometer,	30.160	Lowest point of Thermometer,	45°
Lowest point of Barometer,	29.670	General direction of Wind,	S.W.
Mean Temperature,	65° 2.	Am't of Rain (in inches)	0.00

From Observations taken by Dr. Ignatius Langer, at Davenport, Scott Co., Iowa. Latitude, 41.31 North. Longitude, 13.41 West. Height above the Sea, 729.

	BAROMETER.					THERMOMETER.			RAIN.		Mean Amount of cloud, 0 to 10.
	7 A.M.	2 P.M.	9 P.M.	Mean	Highest	7 A.M.	2 P.M.	9 P.M.	Time (00 minutes).	Mean	
Monday, June 3,	29.28	29.26	29.28	29.33	29.40	65	74	62	0 03	4	
Tuesday, " 4,	29.30	29.27	29.29	29.33	29.40	60	67	62			
Wednesday, " 5,	29.32	29.30	29.28	29.33	29.40	58	63	61			
Thursday, " 6,	29.24	29.27	29.30	29.33	29.40	65	75	67			
Friday, " 7,	29.35	29.34	29.35	29.35	29.40	61	72	68			
Saturday, " 8,	29.40	29.39	29.40	29.39	29.40	65	80	71			
Sunday, " 9,	29.44	29.42	29.37	29.37	29.40	69	81	72			

DEATHS IN BOSTON for the week ending Saturday noon, June 15th, 67. Males, 31—Females, 36.—Abscess, 1—accidents, 2—anaemia, 1—disease of the bladder, 1—inflammation of the bowels, 1—congestion of the brain, 1—disease of the brain, 3—brouchitis, 1—cancer, 2—carbuncle, 1—cholera infantum, 1—consumption, 14—convulsions, 2—croup, 2—cyanosis, 1—diarrhea, 1—dropsy, 1—dropsy of the brain, 2—drowned, 1—scarlet fever, 2—infantile disease, 2—disease of the kidneys, 1—congestion of the lungs, 1—inflammation of the lungs, 7—marasmus, 1—measles, 1—old age, 1—paralysis, 1—premature birth, 2—puerperal disease, 1—cramp of the stomach, 1—suicide, 2—unknown, 2—whooping cough, 2.

Under 5 years of age, 30—between 5 and 20 years, 3—between 20 and 40 years, 18—between 40 and 60 years, 9—above 60 years, 7. Born in the United States, 47—Ireland, 16—other places, 4.